

BloodLytics: Visualising Blood Donation Statistics

Hemanth Sunkireddy, Bharath Gajawada, Jagankrishna

11 March 2024

1 What is your project about?

What hinders blood donation participation and how to improve?

This project revolves around a detailed analysis of blood donation statistics, including donor demographics, donation frequency, and regional supply-demand imbalances. Sourcing relevant datasets from reputable health organizations and blood banks forms the basis for uncovering barriers to blood donation participation.

Statistical methods are applied, and visualizations like pie charts and bar graphs transform complex data into accessible representations, revealing patterns and disparities. Visualizing this information on a map or a heatmap allows for a quick and intuitive understanding of regions with higher demand.

2 Who are the users for your visualization, and what questions get answered with this visualization?

1. Users of the visualization:

- (a) Government (Ministry of Health and Family Welfare)
- (b) Blood Banks
- (c) Blood Donors
- (d) Healthcare Professionals
- (e) Public
- (f) Policy Makers

2. Questions get answered with this visualization?

- (a) Find the areas where blood requirements are more?

- (b) What is the distribution of blood groups, gender, age groups, and relations among donors and recipients?
- (c) How does demographic information such as age, gender, and location correlate with donation rates?
- (d) Are there geographical disparities in blood donation availability and accessibility?
- (e) Find the districts with no blood banks or donations availability?
- (f) Reasons for not donating the blood?
- (g) Frequency of blood donation of a person?

3 Why cannot SQL queries or a program giving some output cannot answer the question? Why is data visualization required for this work?

SQL queries, while providing raw data insights, fall short in delivering an intuitive solution for identifying high-demand areas, visualizing blood group distributions, and understanding demographic correlations.

The limitations of SQL underscore the necessity of data visualization, which offers a more accessible and actionable comprehension of complex patterns and relationships within blood donation datasets.

1. Find the areas where blood requirements are more?

SQL queries can retrieve data on blood requirements based on certain criteria, but visualizing this information on a map or a heatmap allows for a quick and intuitive understanding of regions with higher demand.

2. What is the distribution of blood groups, gender, age groups, and relations among donors and recipients?

While SQL queries can provide statistical summaries, visualizations such as pie charts or bar graphs can offer a clearer representation of the proportion of different attributes, aiding in quick identification of trends or imbalances.

3. Frequency of blood donation of a person?

Visualizing the frequency distribution through histograms or line charts allows for a more accessible understanding of donation patterns compared to a raw list of data generated by SQL queries.